

IN THE CLAIMS

1 1. [currently amended] A method (750) for processing data packets in a
2 gateway element, said method comprising the steps of:

3 - ~~comparing (751) a data packet to~~ providing screening information
4 comprising a set of rules, and
5 - ~~processing (755) a data packet according to a rule belonging to the set of rules, the~~
6 ~~header information of said data packet matching the header information of said rule,~~
7 **characterized in that**

8 - said screening information is being hierarchically structured so that it
9 comprises a first rule, which specifies first header information, and a subset of
10 rules relating to said first rule, ~~and in that~~

11 - ~~in said step of comparing a data packet, said data packet is compared~~
12 ~~(754, 756) to said subset of rules only if the header information of the data packet~~
13 ~~matches the header information of said the first rule, and~~

14 - processing a data packet according to a rule belonging to the set of rules,
15 the header information of said data packet matching the header information of said
16 rule.

1 2. [currently amended] A method according to claim 1, ~~characterized in that~~ for
2 processing data packets in a gateway element, said method comprising steps of:

3 - providing screening information comprising a set of rules, said screening
4 information being hierarchically structured so that it comprises a first rule, which
5 specifies first header information, and a subset of rules relating to said first rule,

6 - said subset of rules ~~comprises~~ comprising a second rule, which specifies
7 second header information, and a second subset of rules, said second subset of

8 rules relating to said second rule, ~~and in that~~

9 - processing a data packet according to a rule belonging to the set of rules,
10 the header information of said data packet matching the header information of said
11 rule.

12 - in said step of comparing a data packet, said data packet is compared to
13 said second subset of rules only, if the header information or the data packet
14 matches the header information of the second rule.

1 3. [currently amended] A method according to claim 1, ~~characterized in that~~
2 wherein

3 - said set of rules is an ordered sequence of rules,
4 - said subset of rules is an ordered sub-sequence of said ordered
5 sequence of rules, and
6 - in said step of comparing a data packet, said data packet is compared to
7 the rules in the order defined by the ordered sequence.

1 4. [currently amended] A method according to claim 1, ~~characterized in that~~
2 wherein for said subset of rules, an entity which is authorized to modify said subset, is
3 specified.

1 5. [currently amended] A method according to claim 1, ~~characterized in that~~
2 wherein at least one rule belonging to said subset of rules comprises a generic
3 information portion, said generic information portion to be replaced with second
4 information before a data packet is compared to said at least one rule.

1 6. [currently amended] A method according to claim 1, ~~characterized in that~~
2 wherein said screening information comprises a first part, which is modifiable by an
3 entity authorized to configure said gateway element, and a second part, which is
4 modifiable by an entity specifically authorized to modify said second part.

1 7. [currently amended] A gateway element (80) comprising

2 - means (801) for storing screening information and

3 - means (802) for processing data packets, ~~said processing involving~~

4 ~~comparison of a data packet header to header information specified in said~~

5 ~~screening information, characterized in that said means (802) for processing data~~

6 ~~packets are arranged to compare~~ by comparing header information of a data packet

7 to screening information, said screening information comprising a first rule, which

8 specifies first header information, and a subset of rules relating to said first rule,

9 ~~and arranged to compare a~~ and wherein said comparing function comprises

10 comparing header information in said data packet to said first rule, and if said

11 header information in said data packet matches said first header information in said

12 first rule, comparing said data packet to said subset of rules ~~only if the header~~

13 ~~information of the data packet matches the header information of the first rule.~~

1 8. [currently amended] A gateway element according to claim 7, further comprising:

2 ~~characterized in that it further comprises~~

3 - means (803) for detecting generic information portions in said screening
4 information,

5 - means (803) for receiving second information, and

6 - means (803) for replacing the generic information portion in said

7 screening information with said second information.

1 9. [currently amended] A gateway element according to claim 8, ~~characterized in that it~~
2 further comprising: ~~comprises~~.

3 - means (804) for preventing modification of at least one rule belonging said
4 information.

1 10. [currently amended] A gateway element according to claim 7, ~~characterized in that~~
2 it further comprising: ~~comprises~~

3 - means (805) for receiving at least part of said screening information from
4 a database entity.

1 11. [currently amended] A gateway element according to claim 10, ~~characterized in~~
2 ~~that it~~ further comprising: ~~comprises~~

3 - means ~~(806)~~ for fetching at least part of said screening information from
4 said database entity, said means for fetching being arranged to initiate fetching as
5 part of configuration of said gateway element.

1 12. [currently amended] An arrangement ~~(85) comprising~~ including at least one gateway
2 element ~~(80)~~ and a database entity ~~(84)~~, said at least one gateway element comprising

3 - means ~~(801)~~ for storing information for screening data packets and,

4 - means ~~(802)~~ for processing data packets, said processing involving
5 comparison of a data packet header to header information specified in said
6 screening information,

7 ~~characterized in that-~~

8 - said database entity ~~comprises~~ including means (82) for providing
 9 information for screening data packets,
 10 - said at least one gateway element ~~further comprises~~ including means
 11 (805) for receiving at least part of said information for screening data packets from
 12 said database entity,
 13 and said processing means (802) ~~for processing data packets are~~
 14 ~~arranged being configured~~ to compare header information of a data packet to
 15 screening information comprising a first rule, which specifies first header
 16 information, and a subset of rules relating to said first rule, and ~~arranged~~ configured
 17 to compare a data packet to said subset of rules only if the header information of
 18 the data packet matches the header information of the first rule.

1 13. [currently amended] ~~A computer program comprising program code for performing~~
 2 ~~all the steps of Claim 1 when said program is run on a computer.~~ A computer-readable
 3 medium having computer-executable instructions stored thereon for controlling a
 4 computer to perform the following steps:
 5 providing screening information comprising a set of rules, said screening
 6 information being heirarchically structured so that it comprises a first rule, which
 7 specifies first header information, and a subset of rules relating to said first rule;
 8 comparing a data packet to said subset of rules only if the header
 9 information of the data packet matches the header information of the first rule; and
 10 processing a data packet according to a rule belonging to the set of rules,
 11 the header information of said data packet matching the header information of said
 12 rule.

1 14. [currently amended] A computer program product comprising program code means
2 stored on a computer readable medium for performing, ~~the method of Claim 1~~ when said
3 program product is run on a computer, the steps of:

4 providing screening information comprising a set of rules, said screening
5 information being heirarchically structured so that it comprises a first rule, which
6 specifies first header information, and a subset of rules relating to said first rule;
7 comparing a data packet to said subset of rules only if the header
8 information of the data packet matches the header information of the first rule; and
9 processing a data packet according to a rule belonging to the set of rules,
10 the header information of said data packet matching the header information of said
11 rule.

1 15. [currently amended] A data structure (~~40, 60, 64, 66~~) comprising screening
2 information, ~~characterized in that~~ wherein said screening information is hierarchically
3 structured so that it comprises a first rule (401), which specifies first header information,
4 and a subset of rules (~~402, 403~~) relating to said first rule, said first header information
5 being common to said rules belonging to said subset of rules.

1 16. [currently amended] A data structure (42) according to claim 15, **characterized** in
2 that said subset of rules comprises a second rule (421), which specifies second header
3 information, and a second subset of rules (422, 423), said second subset of rules
4 relating to said second rule, said second header information being common to said rules
5 belonging to said second subset of rules.

1 17. [new] A method for processing data packets in a gateway element, said method

2 comprising the steps of:

3 - providing screening information comprising a set of rules, said screening
4 information being hierarchically structured so that it comprises a first rule, which
5 specifies first header information, and a subset of rules relating to said first rule,
6 each rule in said subset of rules specifying second header information including a
7 common first portion that matches to said first header information, and a second
8 portion that varies from one to another in said subset of rules;

9 - comparing a data packet to said subset of rules only if the header
10 information of the data packet matches the header information of said first rule; and

11 - processing a data packet according to a rule belonging to said subset of
12 rules only if said header information of said data packet matches both said first and
13 second portion of the header information of said rule.